

Mr. Frank Pohlmann
KUS Zollner Division
2425 South Coliseum Boulevard
Fort Wayne, Indiana 46803

Dear Mr. Pohlmann:

Re: Exempt Construction and Operation Status,
003-12315-00064

The application from KUS Zollner Division, received on May 30, 2000, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following modification to the existing melt furnace #1 (ID M1), located at 2425 South Coliseum Boulevard, Fort Wayne, Indiana, is classified as exempt from air pollution permit requirements:

- (a) One (1) melt furnace, identified as M1, with a maximum melt capacity of 1,200 pounds per hour, equipped with one (1) natural gas-fired melt burner, with a maximum heat input capacity of 2.0 million British thermal units (MMBtu) per hour, and two (2) natural gas-fired flat flame holding burners, each with a maximum heat input capacity of 1.0 MMBtu per hour.

Note: The above listed melt furnace was previously permitted in a Federally Enforceable State Operating Permit (FESOP) (F003-5869-00064) issued to this source on December 9, 1996, as an electric melt furnace with a maximum melt capacity of 800 pounds per hour. This unit is exempt because potential emissions are all under the exemption levels specified in 326 IAC 2-1.1-3(d)(1) (Exemptions). This modification does not affect any of the State or Federal permitting rules.

The following conditions shall be applicable:

- (1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:
 - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
- (2) Pursuant to 326 IAC 6-3-2 (Process Operations), the PM emissions from the melt furnace, identified as M1, shall not exceed the allowable emission rate of 2.91 pounds per hour, based on a process weight rate of 1,200 pounds per hour. This emission limit was calculated using the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

This existing source has been issued a FESOP (F-003-5869-00064) on December 9, 1996. This source has submitted an application for a FESOP modification to incorporate the above mentioned modification on December 21, 1999.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Management (OAM) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

TE/EVP

cc: File - Allen County
Allen County Health Department
Air Compliance - Jennifer Schick
Permit Tracking - Janet Mobley
Air Programs Section- Michelle Boner

Appendix A: Emission Calculations

Source Emissions Summary After Modification

Company Name: KUS Zollner Division
Address City IN Zip: 2425 South Coliseum Blvd., Fort Wayne, Indiana 46803
Exemption No.: 003-12315
Plt ID: 003-00064
Reviewer: Trish Earls/EVP
Date: May 30, 2000

Total Potential To Emit (tons/year)				
Emissions Generating Activity				
Pollutant	Melt Furnace #1	Pouring/Casting Emissions	Natural Gas Combustion	TOTAL
PM	0.05	0.00	0.03	0.08
PM10	0.34	0.00	0.13	0.47
SO2	0.00	0.05	0.01	0.06
NOx	0.00	0.03	1.75	1.78
VOC	0.00	0.37	0.10	0.47
CO	0.00	0.00	1.47	1.47
total HAPs***	0.00	0.00	0.03	0.03
worst case single HAP***	0.00	0.00	0.03	0.04
Total emissions based on rated capacities at 8,760 hours/year.				

Appendix A: Secondary Metal Production
Aluminum
Potential Emissions from Modified Equipment

Page 2 of 3 TSD App A

Company Name: KUS Zollner Division
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Exemption No.: 003-12315
Pit ID: 003-00064
Reviewer: Trish Earls/EVP
Date: May 30, 2000

SCC# 3-04-001-03 Smelting Furnace/Reverberatory Melt Furnace #1						
TYPE OF MATERIAL	Throughput LBS/HR	1 TON/2000 lbs	TON/HR			
Aluminum	1200	2000	0.6			
	PM ** lbs/ton Produced 0.019	PM10 ** lbs/ton Produced 0.13	SOx lbs/ton Produced 0	NOx lbs/ton Produced 0	VOC lbs/ton Produced 0	CO lbs/tons Produced --
Potential Emissions lbs/hr	0.01	0.08	0.0	0.0	0.0	--
Potential Emissions lbs/day	0.27	1.87	0.0	0.0	0.0	--
Potential Emissions tons/year	0.05	0.34	0.0	0.0	0.0	--
SCC# 3-04-001-04 Fluxing/Chlorine						
TYPE OF MATERIAL	Throughput LBS/HR	1 TON/2000 lbs	TON/HR			
Flux	0	2000	0			
	PM * lbs/ton Chlorine 1000	PM10 * lbs/ton Chlorine 532	SOx lbs/ton Chlorine 0.00	NOx lbs/ton Chlorine 0.00	VOC lbs/ton Chlorine 0.00	CO lbs/tons Chlorine --
Potential Emissions lbs/hr	0.0	0.0	0.0	0.0	0.0	--
Potential Emissions lbs/day	0.0	0.0	0.0	0.0	0.0	--
Potential Emissions tons/year	0.0	0.0	0.0	0.0	0.0	0
SCC# 3-04-001-14 Pouring/Casting						
TYPE OF MATERIAL	Throughput LBS/HR	1 TON/2000 lbs	TON/HR			
Aluminum	1200	2000	0.6			
	PM lbs/ton metal charged --	PM10 lbs/ton metal charged --	SOx * lbs/ton metal charged 0.02	NOx * lbs/ton metal charged 0.01	VOC * lbs/ton metal charged 0.14	CO lbs/tons metal charged --
Potential Emissions lbs/hr	0	0	0.01	0.01	0.08	--
Potential Emissions lbs/day	0	0	0.29	0.14	2.02	--
Potential Emissions tons/year	0	0	0.05	0.03	0.37	--

* Note: Emission factor is from FIRE version 6.01.

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**Note: PM and PM-10 emission factors for melt furnace were based on approved stack test results from a stack test performed January 18, 2000 on furnace #14. PM-10 includes filterable and condensable particulate matter.

Appendix A: Emissions Calculations
Emissions From Natural Gas Combustion
MM BTU/HR <100

Page 3 of 3 TSD App A

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Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

4.0

35.0

		Pollutant				
Emission Factor in lb/MMCF	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.03	0.13	0.01	1.75	0.10	1.47

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

		HAPs - Organics			
Emission Factor in lb/MMcf	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	3.7E-05	2.1E-05	1.3E-03	3.2E-02	6.0E-05

		HAPs - Metals				
Emission Factor in lb/MMcf	Lead	Cadmium	Chromium	Manganese	Nickel	Total
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	8.8E-06	1.9E-05	2.5E-05	6.7E-06	3.7E-05	0.03

Methodology is the same as listed above.

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.